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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ALI, MOHAMMAD

ART UNIT PAPER NUMBER

2166

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,675

Applicant(s)

AMER-YAHIA ET AL.

Examiner

Mohammad Ali

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to the application filed on 9/25/06.

The application has been examined and claims 1-20 are pending in this office action.

Response to Arguments

2. After further search and a thorough examination of the present application claims 1-20 remain rejected.

Applicants' arguments with respect to claims 1-20 have been considered, but they are not deemed to be persuasive.

First, Applicant's argue that Syeda-Mahmood does not teach or suggest 'searching a document having nested-structured document-specific markup'.

In response to applicant's arguments, the recitation 'searching a document having nested-structured document-specific markup' has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Further, the Examiner respectfully submits that in particular, Syeda-Mahmood teaches this limitation as, the phrases extracted by XML Schema, (2) specifies, (3) element names that can occur in a document, (4) element nesting structures, (5) element attributes, (6)

specifies, (7) basic data types of attribute values, (8) occurrence constraints of attributes, and (9) called document type definition (see para. 0044, Fig.s Syeda-Mahmood).

Second, Applicant's argue that Syeda-Mahmood does not teach or suggest 'the structure of a document that is being searched'.

In response to applicant's arguments Syeda-Mahmood teaches this limitation as, the grouping process uses a connected component algorithm to merge adjacent phrasal matches (search) that are within the inter-phrase match distance threshold of each other. The connected component algorithm uses a fast data structure called the union-find to perform the merging. During grouping, multiple occurrences of a match to a phrase are allowed within a group to handle cases when a phrase emphasizing a point of discussion was uttered frequently (see para. 0061, Fig.s Syeda-Mahmood).

Third, In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one ordinary skill in the data processing art at the time of the present invention to combine the cited references because tag or annotation that is

Art Unit: 2166

ignored during the phrase matching process of Green's teaching would have allowed Syeda-Mahmood's system in interactive process to build grammars and rules for the normalization of contents as suggested by Green at col. 37, lines 32-34. Further, tag or annotation that is ignored during the phrase matching process as taught by Green allow for more efficient processing, the computer-based device to perform a statistical or other analysis of the source database to identify how many times or how often individual elements are present, or may otherwise provide information for use in prioritizing elements for mapping to the standardized lexicon (see col. 4, lines 20-25, Green). Thus Green et al. does overcome the deficiencies of Syeda-Mahmood.

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Reference is made to MPEP 2144.01 - Implicit Disclosure

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)

Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference (s) applied and cited. It is logical for the examiner to

Art Unit: 2166

focus on the limitations that are "crux of the invention" and not involve a lot of energy and time for the things that are not central to the invention, but peripheral. The examiner is aware of the duties to address each and every element of claims, however, it is also important that a person prosecuting a patent application before the Office or an stakeholders of patent granting process make effort to understand the level of one of ordinary skill in the (data processing) art or the level one of skilled in the (data processing) art, as encompassed by the applied and cited references. The administrative convenience derived from such a cooperation between the attorneys and examiners benefits the Office as well the patentee.

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Action.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

In response to applicant's argument, to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

"Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art."

In re Keller, Terry, and Davies, 208 USPQ 871 (CCPA 1981).

"Reason, suggestion, or motivation to combine two or more prior art references in single invention may come from references themselves, from knowledge of those skilled in art that certain references or disclosures in references are known to be of interest in particular field, or from nature of problem to be solved;" Pro-Mold and Tool Co. v. Great Lakes Plastics Inc. U.S. Court of Appeals Federal Circuit 37 USPQ2d 1626 Decided February 7, 1996 Nos. 95-1171, - 1181

"[q]uestion is whether there is something in prior art as whole to suggest desirability, and thus obviousness, of making combination." Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al. U.S. Court of Appeals Federal Circuit 221 USPQ 481 Decided Mar. 21, 1984 No 83-1178.

Hence, Applicants' arguments do not distinguish over the claimed invention over the prior art of record.

In light of the foregoing arguments, the 103 rejections are hereby sustained.

Claim Objections

3. Claims 13-16 are objected to because of the following informalities: Examiner suggests claims 13-16 should be written as an independent form. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanveer Fathima Syeda-Mahmood ('Syeda-Mahmood' hereinafter), USPgPub 2003/0065655 in view of Green et al. ('Green' hereinafter), USP, 6,986,104.

With respect to claim 1,

Syeda-Mahmood teaches a method of searching a document having nested-structure document-specific markup (see para. 0044), the method comprising:

receiving a query that designates at least (A) a phrase to be matched in a phrase matching process (see para. 0054, Syeda-Mahmood), and (B) a selective designation of at least a tag or annotation that is to be ignored during the phrase matching process (see paras. 0024, 0048, Syeda-Mahmood);

deriving query-specific indices based on query-independent indices that were created specific to each document (see paras. 0053, 0054, Syeda-Mahmood); and

carrying out the phrase matching process using the query-specific indices on the document having the nested-structure document-specific markup (see paras. 0044, 0050 Syeda-Mahmood).

Syeda-Mahmood does not explicitly indicate claimed tag or annotation that is ignored during the phrase matching process.

Green discloses claimed tag or annotation that is ignored during the phrase matching process (see col. 14, lines 36-41, col. 37, lines 1-3, Green).

It would have been obvious to one ordinary skill in the data processing art at the time of the present invention to combine the cited references because tag or annotation that is ignored during the phrase matching process of Green's teaching would have allowed Syeda-Mahmood's system in interactive process to build grammars and rules for the normalization of contents as suggested by Green at col. 37, lines 32-34. Further, tag or annotation that is ignored during the phrase matching process as taught by Green allow for more efficient processing, the computer-based device to perform a statistical or other analysis of the source database to identify how many times or how often individual elements are present, or may otherwise provide information for use in

Art Unit: 2166

prioritizing elements for mapping to the standardized lexicon (see col. 4, lines 20-25, Green).

As to claim 2,

Syeda-Mahmood teaches wherein the query-independent indices were created (see para. 0044, 0050 Syeda-Mahmood)

by a method including:

a) labeling elements in the document with intervals (see para. 0044 et seq, Syeda-Mahmood), wherein:

a1) for markup tags, the intervals are defined in terms of a starting index number associated with an opening markup tag and an ending index number associated with a closing markup tag that corresponds to the opening markup tag (see paras. 0024, 0048 Syeda-Mahmood), and

a2) for single words, the intervals are defined in terms of a single index number associated with the word (see para. 0025, Syeda-Mahmood); and

b) forming the query-independent indices so that they are configured to be used in the searching method by first receiving, for a word or tag in the document, a position in the document, and by then indicating whether or not the word or tag is present at that position (see para. 0024, 0048 Syeda-Mahmood).

As to claim 3,

Syeda-Mahmood teaches wherein the step of deriving the query-specific indices involves deriving the query-specific indices from the query-independent indices without rebuilding any of the query-independent indices (see para. 0025, Syeda-Mahmood).

Art Unit: 2166

As to claim 4,

Syeda-Mahmood teaches wherein the step of deriving the query-specific indices includes forming at least one of a group (see para. 0026, Syeda-Mahmood) including:

an index of each word in the phrase to be matched by the phrase matching process (see para. 0050, Syeda-Mahmood);

an index of context tags that may be found in the document (see paras. 0024, 0048 Syeda-Mahmood); and

an index of at least a tag or annotation to be ignored during the phrase matching process (see para. 0024, 0048 Syeda-Mahmood).

As to claim 5,

Syeda-Mahmood teaches wherein the phrase matching process (see para. 0054, Syeda-Mahmood) includes: .

for each context interval, defined by a beginning index defining a position of beginning tag and a closing index defining a position of a closing tag, performing an index-nested loop by probing an index of each phrase word in order, and an index of each tag or annotation to be ignored, so as to construct at least one witness (see paras. 0024, 0048 Syeda-Mahmood);

wherein each witness is a contiguous sequence of intervals contained within the context interval and includes each phrase word occurrence exactly once and in phrase order (see paras. 0056, 0057, Syeda-Mahmood).

As to claim 6,

Art Unit: 2166

Syeda-Mahmood teaches wherein at least one witness includes each phrase word occurrence exactly once and in phrase order, interleaved with tags or annotations to be ignored (see paras. 0024, 0048, Syeda-Mahmood).

As to claim 7,

Syeda-Mahmood teaches wherein the phrase matching process (see para. 0054, Syeda-Mahmood) includes:

scanning, in document order, a combined index of (A) phrase words and (B) tags or annotations to be ignored, while using a stack to keep track of nested context intervals and annotation intervals (see paras. 0044, 0024 Syeda-Mahmood);

wherein: the stack includes at least one entry corresponding to a current context interval in which witnesses are identified (see para. 0062, Syeda-Mahmood); and

the at least one entry maintains a identified and (B) complete witnesses context interval set of (A) partial witnesses that are being that have been identified, within the current (see paras. 0063, 0064, Syeda-Mahmood).

As to claim 8,

Syeda-Mahmood teaches wherein the query (see para. 0064, Syeda-Mahmood) further designates:

a set of context tags defining a context to which the phrase match should be restricted (see para. 0040 et seq, Syeda-Mahmood).

As to claim 9,

Syeda-Mahmood teaches wherein:

the document's nested-structure document-specific markup is in Extensible Markup Language (XML) (see para. 0044, Syeda-Mahmood).

As to claim 10,

Syeda-Mahmood teaches wherein:

the receiving step includes receiving a query that designates at least a phrase to be proximity-matched in the phrase matching process (see para. 0057, Syeda-Mahmood); and

the phrase matching process involves proximity phrase matching as distinguished from exact phrase matching (see paras. 0058, 0059, Syeda-Mahmood).

Claims 11-20 have the same subject matter as of claims 1-10 and essentially rejected for the same reasons as discussed above.

Remarks

6. For Applicant's reminder, claims 17-20 does not support any software in order to realize hardware. In order to support a memory/processor is required.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2166


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4105. The examiner can normally be reached on Monday-Thursday (7:30 am-6:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Mohammad Ali
Primary Examiner
Art Unit 2166

MA
December 8, 2006